

closes the main stop valve; at the same time the oil supply to the relay system is interrupted and opens a drain on the oil-relay cylinders, admitting also the oil supply to the top of the oil-power piston. The throttle valve is therefore closed simultaneously. Provision is made to enable the emergency gear to be tripped by hand. The oil-pump is placed near the floor, and is attached to the bearing housing by a special column which makes the pump quite accessible. The pump is of the rotary type, driven from the main governor spindle by gears. The oil coming from the bearings runs into a tank in the bedplate and passes through a strainer into the pump suction. The oil is then

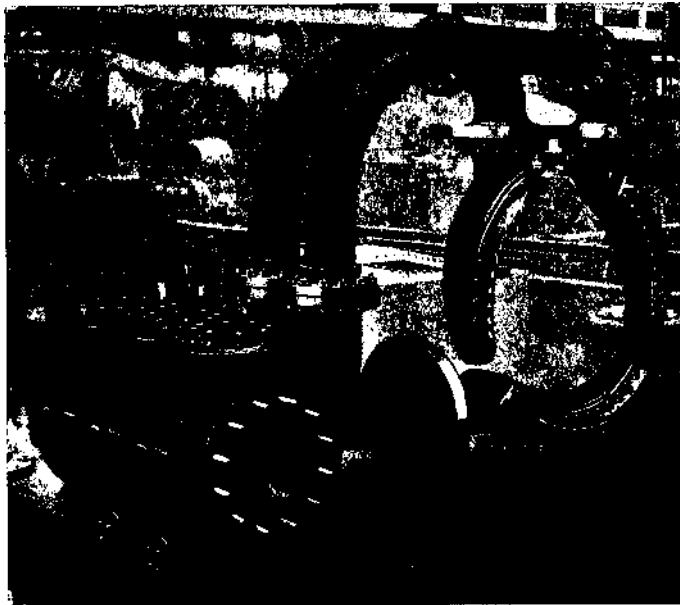


Fig. 10.—Nozzle Boxes and Connections to Steam Chest

pumped through an oil cooler of the surface-condenser type, and up into the bearings and oil-relay cylinder. A small hand-pump or steam-driven turbo-oil-pump is provided to lubricate the bearings when starting up the turbine.

#### THE METROPOLITAN-VICKERS COMPANY'S DESIGN

The steam turbines built by Messrs. The Metropolitan-Vickers Company are of the Rateau type generally, with a velocity wheel in the first stage. Their machines embody many points in design which are claimed to represent the outcome of the makers' extended experience in the production of large size units designed to operate under severe steam

conditions.

Fig. 19 shows the three nozzle boxes and their connections to the steam chest. These are the only parts of the turbine subjected to high pressure and superheat. The boxes consist of steel castings, and are bolted at one end directly or through pipes to the steam chest, the other end being free to